METHODS OF MARKETING THE GRAIN CROP

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One of the most important and interesting branches of commercial activity in this country of great wealth and natural resources is that engaged in the marketing of the nation's grain crop, a task which each year taxes the country's financial resources. The effect of this annual movement upon the currency of the country is in itself a sufficiently complicated and important problem to merit extensive discussion. The volume of the exports of grain from this country to Europe, is still an important item in the make-up of our international balance sheet. Recognizing that this subject is too extensive to be included within the limitations of a single article, it is the purpose of this paper to deal only with the actual handling of the crop from its origin until it reaches its ultimate destination. Such a discussion must treat the conduct of the different divisions of the grain business, showing the function which each performs in the work of transporting the crop to the place where it is needed.

I. The Exchanges

Inseparably linked with the conduct of the grain business, and forming the basis on which its success rests, are the grain exchanges or boards of trade, which exist in all the large markets of the country. These are so essential to the modern methods of marketing the crops that a knowledge of their organization and functions is necessary for a proper understanding of the grain business. We shall, therefore, first give a brief description of the work of the exchanges, and follow this with a discussion of the actual work of marketing the crop. As the Chicago Board of Trade is one of the oldest and the most important of the country's exchanges, and forms the basis for the organization of most of the others, a study of its rules will give a clear understanding of the conduct of these institutions.

The objects of the Board of Trade as stated in its rules are: "To maintain a Commercial Exchange; to promote uniformity in

the customs and usages of merchants; to inculcate principles of justice and equity in trade; to facilitate the speedy adjustment of business disputes; to acquire and to disseminate valuable commercial and economic information; and generally to secure to its members the benefits of co-operation in the furtherance of their legitimate business pursuits."

It is evident that the primary object for which the Exchange exists is to form a great market where buyers and sellers can come together and transact business. It should be borne in mind that the Exchange itself does not in any way deal in commodities, but confines its work to fixing and enforcing the rules governing buyers and sellers. The establishment of rules to promote uniformity of customs and usages is a very important function of the Exchange. The grain business is one which involves the transfer of money upon oral contracts, and it is essential that there should be uniform customs in regard to the performance of such contracts, in order to prevent confusion and possible fraud. Contracts for purchases and sales of grain are made orally upon the Exchange by members, and recorded upon trading cards, which show the name of the person with whom the transaction is made, the amount of grain bought or sold, the grade to be delivered, the month of delivery, and the price. No evidence of the contract is exchanged between the buyer and seller at the time of the sale. At the close of business each member has upon his trading card a record of the transactions which he made during the course of the day. Although there is no evidence of the contract exchanged between the parties at the time it is made, the Chicago Board of Trade rules provide for the written confirmation of purchases and sales at the close of the day's trading. Each party to a transaction for future delivery is required to send to the Clearing House a memorandum containing the date of the transaction, the amount and kind of grain, the month of delivery, the price, and the name of the person with whom the deal was made. The Clearing House distributes these to the other parties to the transactions, by whom they are held as confirmations of the trades made. By this method the Exchange secures a uniform system of making contracts without the formality and delay which would attend the exchange of written contracts at the time of the sale.

Among the other rules governing the making of contracts, is the

prohibition of all trading outside of hours, under penalty of suspension. The object of this rule is to confine all trading which may tend to the maintenance of a public market within the hours specified. The rules also prohibit the making of contracts in which any money consideration is added to or deducted from the contract price. The purpose of this prohibition is to prevent the creation of a fictitious price. It is similar in its intent to the ban which is placed upon "washed" sales by the stock exchanges.

After a transaction has been made, all contracts for future delivery become subject to the rule regulating margins. This is an important factor in all future contracts. The margin rule provides that at the time the transaction is made the purchaser may demand from the seller, as security for the performance of the contract, a ten per cent margin, based on the contract price, and additional security from time to time to the extent of any advance over such contract price. The seller may require a ten per cent margin from the purchaser at the time of sale, and additional security to the extent of any decline below the contract price. For example: A sells to B 10,000 bushels of May wheat at $1.00 per bushel, or $10,000. At this point B, the purchaser, may demand from A, the seller, a deposit of 10 per cent of the contract price, or $1,000, as marginal security. At the same time, A, the seller, may demand an equal margin from B. Now, suppose that the market price of May wheat advances to $1.02 per bushel. B, the purchaser, according to the rule, may demand an additional margin of 2 cents per bushel, or $200 from A. On the other hand, suppose that the price of May wheat drops to 97 cents per bushel. A, the seller, may then demand an additional margin of 3 cents per bushel or $300 from B.

These margin deposits must be made in certain designated depositories. In Chicago they may be made either with the treasurer of the Exchange Clearing House or in banks which have been named as depositories by the directors of the Board of Trade. Before a bank is accepted as an authorized depository it is required that at least one of its chief executive officers shall be a member of the Exchange, and so answerable to its rules in matters under dispute concerning deposits. When a margin call is made, the sum called for must be deposited within the next banking hour. If this is not done the person making the call may repurchase or resell, as the case may be, and charge the difference between the

contract price and the price at which the property is repurchased or resold as the measure of damages. In the case given above where the price rose to $1.02 per bushel, and B demanded a deposit of $200, if A had neglected to make such deposit, B might have gone upon the Exchange and repurchased the property at $1.02 per bushel, charging against A, as the measure of damages, the difference between the contract price, $10,000, and the repurchasing price, $10,200, or $200. In this way B's profit is protected.

When margin deposits are accepted by a bank a receipt is given the depositor, stating the name of the depository bank, the date, the name of the depositor, the amount of the deposit, and the name of the party in whose favor it is made. If the difference between the contract price and the market price narrows, the depositor may demand the return of a ratable proportion of his deposit. To continue the case given above, if the price subsequently declined to $1.01 per bushel, A might demand the return of $100 of his margin deposit.

The actual practice of calling cash margins in grain transactions, as in the case of margin calls on stocks, depends largely upon the financial responsibility of the parties. In many trades between members, where each is perfectly confident of the other's financial stability, the calling of margins is unnecessary, and is often disregarded. The contract is allowed to run with very little attention paid to this matter. On the other hand, where the parties to the deal are not so responsible, margins are frequently called; and in the event of violent fluctuations in prices, may result in financial difficulties for the concern which is called upon to make the deposits. When a member of the Exchange makes contracts for the account of an outside party it is customary to call upon the latter for the initial deposit of ten per cent and require him to keep this deposit good. The calling of margins does not depend upon any set rule, but is determined by the parties to each individual transaction.

The fulfilment of all contracts, or delivery upon contracts, as it is called, is made by the tender of regular warehouse receipts for grain, unless otherwise expressly provided for. The receipt states the name of the elevator company issuing it, the date of issue, the kind and amount of grain, and the name of the owner. All the receipts issued by an elevator must be consecutively numbered in

order to avoid confusion. The receipts are negotiable and pass by endorsement. Upon presentation of the receipt, properly endorsed, to the elevator company the grain will be delivered. Only receipts issued by warehouses which have been declared "regular" by the directors of the Exchange are valid deliveries upon contracts. In order to be declared regular an elevator must be easily approachable by vessels, have customary shipping facilities, uniform storage rates, and the proprietors must be in good financial standing. Although the rules require that delivery be made by warehouse receipts, the actual receipts are not passed from hand to hand by endorsement. This necessity is obviated by allowing the seller to issue a Delivery Notice, in which he notifies the buyer of his readiness to deliver certain warehouse receipts in fulfilment of his contract. This notice is passed from seller to buyer by endorsement, and constitutes a valid tender upon contracts.

The previous description is intended to give an understanding of the principal functions of the Exchange, the methods by which contracts are made, the practice of giving margins, and the manner in which delivery is made upon contracts. After this preliminary explanation of the manner in which transactions are made, it is now possible to examine the different divisions of the grain business with the purpose of analyzing the functions performed by each in the marketing of the crop.

II. Country Elevators

The first division of grain marketing concerns consists of those whose operations center in the country, with close affiliations in the primary markets. It is their function to secure control of the grain in the country, supervise its transportation to the primary markets, and dispose of it there. There are three kinds of concerns which secure control of the grain from the farmer at country points, viz., the Line Elevator Company, the Farmers' Elevator Company, and the independent dealers. The methods by which these concerns carry on operations vary somewhat, but the business of all three is similar, in that it consists of the purchase of grain from the farmer, the storage of the grain in the country elevator, and shipment to the primary market.

The Line Elevator Company has its headquarters in the primary market and operates a large number of country elevators along

some line or lines of railroad. At each one of these country elevators grain is purchased from the farmers, and cash paid for it. The grain is taken into the elevator and held there temporarily. As it accumulates it is loaded into cars and shipped to the primary market. Some of these Line companies operate elevators through Minnesota, North Dakota, and South Dakota. The grain is shipped either to Minneapolis or Duluth, depending upon the freight rate to those cities from the country point.

In figuring the country price, the elevator company deducts from the primary market price the cost of freight plus 3 cents for wheat, freight plus 5 or 6 cents for flax, and freight plus 1½ to 2½ cents for coarse grains, such as corn and oats. These figures may vary somewhat, but are sufficiently accurate for most purposes. The difference in the margin which the company allows itself on different grains is due to the degree of risk assumed. The chance of loss in handling flax for example, through fluctuations in price, or deterioration in quality, is greater than that of other grains, hence a margin of 5 or 6 cents per bushel is allowed. As an example of the way in which the country price is fixed, let us take a town in Minnesota with the freight rate to Minneapolis 5 cents per bushel, and the margin of the elevator company for handling wheat 3 cents per bushel. The country price will be 8 cents less than the price in Minneapolis.

In determining the grade of the wheat in the country for which the farmer is paid, individual judgment is an important factor. Owing to the competition for grain at country points, there is a tendency for the buyer to allow as high a grade as possible on it, in order to secure it from the farmer. For this reason the farmer gets the full benefit of proper grading; in fact, it is the testimony of men in the Line elevator business, that grain seldom grades higher in the primary market than in the country, but more often the grade is lower.

The Line Elevator Company sends out by mail daily to its country elevators lists of prices to be paid for all grades of wheat, flax, barley, oats and other grains. If there are sudden fluctuations in the market, say of 1½ or 2 cents per bushel, the Line Company wires price changes to conform with the new primary market prices. In either case the price given to the country houses holds good until the agents are notified of changes.

The methods used by the Line Elevator companies in fixing country prices are substantially identical with those of its competitors in the country, so in dealing with the latter these explanations need not be repeated. In every case, the method pursued is to pay such a price in the country that, after adding freight and other costs, the grain may be sold in the primary market with a fair profit. The disposition of the grain when it reaches the primary market will be explained later.

The competitors of the Line Elevator Company in the country are the Farmers' Elevator Company and the independent dealer. The Farmers' Elevator Company is an association of farmers which owns and operates a country elevator. Its business consists in purchasing grain from the farmers, storing it, and shipping it to the primary markets like the Line Elevator Company. The disposition of the grain in the primary market differs somewhat, as the Line Company handles this itself, while the Farmers' Elevator Company employs a commission man. The apparent advantage of the Farmers' Elevator Company over the Line Company consists in its ability to get control of the grain in the country. Naturally, the farmers who hold stock in the company will sell their grain to it in preference to the Line Company, inasmuch as the profits of the concern depend upon the amount of grain handled, and they, as stockholders, are participants in the profits. At one country station there may be four or five Line elevators owned by different companies, and one Farmers' elevator, owned by the farmers of that vicinity. The Farmers' elevator will probably secure from a half to a third of the grain shipped from that station, due to the advantage just explained. Its cost of operation will be very little more than that of each Line elevator. It is apparent therefore, that the Farmers' elevator, handling a much larger quantity of grain at approximately the same expense, does business at a considerably lower cost per bushel than the Line Company. As the country builds up and the farmers become more prosperous there is a tendency for them to supply the capital for country elevators and handle their own grain in this way. It is the opinion of many men in the grain business that the Line Elevator Company is a pioneer institution, fitted only for a new country where capital is scarce, and unable to withstand the competition of the Farmers' Elevator Company.

In reply to a communication upon this subject, Mr. L. H. Squire, president of the North Dakota branch of the American Society of Equity, an organization whose purpose is to secure profitable prices for farm products, writes as follows:

> The Farmers' elevators in the past few years have been rapidly increasing, so much so that every county and most towns of any size (in North Dakota) have one. The Society of Equity is making one of its principal objects that of incorporating Equity elevators throughout the state, that the farmers may handle their grain at home. . . . At this very moment (February, 1911) we have perhaps in the neighborhood of twenty-five over the state which are being organized. We predict that in a few years all the grain from this state will be handled through the institutions which are owned and controlled by the farmers exclusively.

A strong confirmation of this view is contained in a letter from Mr. Henry Feig, Supervising Inspector of Country Elevators for the State of Minnesota, who writes:

"There has been a very perceptible increase in the number of Farmers' elevators in this state (Minnesota) during the last five years, and a correspondingly large decrease in the number of Line houses. . . . . As to the future of Farmers' and Line houses, I believe there is no doubt that the latter will decrease and the former increase in number." The figures showing the changes during the past five years follow:

TABLE SHOWING TOTAL NUMBER OF LOCAL WAREHOUSES IN OPERATION IN THE STATE OF MINNESOTA FOR FIVE YEARS.

Style of Elevator	1906	1907	1908	1909	1910
Line houses	1199	1171	1007	971	871
Independent houses	381	377	430	405	363
Farmers' houses	151	168	178	205	224
Total	1731	1716	1615	1581	1458

The independent dealers are individuals who own single elevators at some country point. Their business is identical in nature with that of the Farmers' elevator. Where there are Line elevators and an independent dealer at the same point the farmers seem inclined to favor the latter, as he is regarded as a competitive force in sustaining prices. The independent dealer, like the Farmers' Elevator Company, disposes of his grain in the primary market through the service of a commission man.

These three concerns, then, the Line Elevator Company, the

Farmers' Elevator Company, and the independent dealer constitute the country end of the grain business. It is their function to secure the grain from the producer and start it upon its journey to the ultimate consumer. The second stage in that journey is the concentration of the grain in the primary markets.

III. The Primary Market

After the grain has been shipped from the country elevator it must be disposed of in the primary market. The Line Elevator Company does this by selling the grain on the floor of the Exchange through its own representative. The Farmers' elevator and the independent dealer sell on the Exchange through a commission man. In both cases the grain is sold to the big Terminal Elevator companies or to millers. The methods used by the Line companies and those of the commission man in selling to the Terminal Elevator Company are very similar and will be treated as one.

There are various contracts which can be used in disposing of the grain to the Terminal Elevator Company. One of these is the "to arrive" contract, by which the country elevator concern is required to deliver the grain within fifteen days. This is used to a large extent by all three classes of country dealers. The Line Elevator Company which has a considerable quantity of grain in its country elevators can sell "round lots" of grain "to arrive." These are sales of from ten to a hundred thousand bushels. The grain is then shipped out from the country elevators, and as it arrives in the primary market is applied on the "to arrive" contract. In this way the Line Company saves the work of selling each individual car load on its arrival.

The Farmers' Elevator Company and the independent dealer also use the "to arrive" contract to a large extent. When there is a bulge in the cash price of grain in the primary market, the "to arrive" price rises simultaneously, and a common way of taking advantage of this advance is to notify their commission man to sell a certain amount of grain "to arrive." The grain is then loaded out of the country elevator and shipped to the primary market to fill the contract. A subsequent decline in prices during the time of transit will not affect the country dealer, since his grain is already disposed of.

The second method of selling grain in the primary market, commonly used by the country concerns, is the "on track" sale. The grain is shipped from the country elevator unsold. Upon its arrival in the primary market it is sold by car lots to the Terminal Elevator Company; in the case of the Line Company through its representative, and in the case of the Farmers' elevator and independent dealer through a commission man.

At the time the "on track" sale is made the seller gives the car numbers to the Terminal Elevator Company, and orders the railroad to switch the cars to the elevator company's warehouse. The unloading at the elevator is done under the supervision of the state, and the weighing of the grain is done by a state official. On the basis of these weights the seller makes out his bill and presents it to the Terminal Elevator Company for payment. In the case of such sales by a commission man for a Farmers' Elevator Company or an independent dealer the following Account of Sales is rendered:

Folio........ Duluth, Minn.,.............. .191..

Account Sales by COMMISSION DEPARTMENT,

For Account of.......................... ....

Car	Initials	Contents		Date of Sale	Gross Weight	Dockage	Net Bushels	Price	Amount
		Grade	Dockage						
		Freight, Inspection and Weighing,							
		Switching Trackage							
		Reinspection							
		Storage							
		Insurance							
		Commission					TOTAL		
		Days Interest at per cent.					CHARGES		
		Net Proceeds							
		Advanced							
		"							
		"							
E. &	O. E.	Balance							

For his services the commission man receives a straight commission of so much per bushel; in the case of wheat, 1 cent. The amount of this profit depends upon the volume of business which he can command. This is secured by means of agents, who are sent out by the commission man to solicit shipments from Farmers' Elevator companies and independent dealers. It is by means of this personal solicitation, and by giving satisfactory service, that the commission man secures his business.

In this connection the credit relationhip existing between the commission man and those for whom he deals should be explained. When the Farmers' Elevator Company and the independent dealer ship grain from their country elevators they cannot wait until it arrives at the primary market to receive the proceeds, because their limited capital is needed to purchase more grain. In this connection the commission man renders them a valuable service by furnishing them with credit. When the grain is shipped, the country concern takes the bill of lading and attaches to it a draft drawn against the commission man. Upon depositing this in the country bank the country dealer receives credit with which he may buy more grain. In a reasonably stable market the commission man will permit the country dealer to draw against him up to 90 per cent of the value of the grain shipped.

In addition to this means of supplying credit some commission firms advance money to country shippers upon an open account. An arrangement is made by which the latter may draw upon the commission firm up to a certain amount without depositing bills of lading or any collateral. The reason back of this is that country shippers sometimes find it impossible to secure cars to ship out grain held in the elevator. Their own capital becomes tied up, and money is needed to buy the grain which the farmers are bringing in. In such an emergency the capital of the commission man is advanced to satisfy temporary needs. The amount which is advanced depends upon the financial standing of the country shipper. When the grain finally arrives in the primary market and is sold the advances by draft or otherwise are, of course, deducted in making the settlement. It is to this that the item "advanced" in the Account of Sales refers.

Another method of disposing of grain used by the country concern besides the "to arrive" and "on track" sale, is the selling

of grain "in store." Upon the arrival of the grain in the primary market it is not immediately sold to the Terminal Elevator Company in this case, but is stored in the elevator for the account of the country owner. All public elevators are required to accept grain for storage as long as any room remains, and the Farmers' Elevator Company or independent dealer can keep his grain here as long as the storage charges are paid. The purpose of this is to await more favorable conditions for marketing the grain. When the owner desires to sell, the grain is disposed of by the commission man, who sells it "in store." Delivery is made by endorsing the elevator receipt to the purchaser. This method of storing grain by country interests is more in use in Canada than in this country. Here the "to arrive" and "on track" sales are commonly used.

Thus far we have discussed the first stage in the handling of the grain crop, viz., its concentration in the primary market from the country district through the medium of the Line Elevator Company, the Farmers' Elevator Company, the independent dealer, and the commission man. A part of the grain which is received in primary markets is sold to millers for local use. In a market such as Minneapolis, which is a great milling center, the bulk of the wheat received is used for this purpose. In such markets as Chicago and Duluth, however, most of the grain is taken by the large Terminal Elevator companies.

The Terminal Elevator Company derives its profit mainly from the storing and mixing of grain. Every public elevator of this kind must receive grain for storage up to its capacity, at certain uniform rates. In addition to the storage of grain for others the Terminal Elevator Company purchases large amounts from country shippers as previously described, and stores this until it is ready to re-sell.

The difference between the prices of two options such as December wheat and May wheat, should theoretically represent the carrying charges from December until May, that is interest upon the money tied up, insurance premiums, cost of handling grain, and a fair profit. The normal difference between December and May wheat is about 4 or 5 cents per bushel. This means that the Terminal Elevator Company can purchase December wheat, and sell May wheat for 4 or 5 cents more per bushel. The wheat purchased is carried until May, when it is delivered upon the contract.

Or, when May arrives, if the price of July wheat is high enough, instead of delivering the actual grain upon its May contracts, the company can buy May wheat to cover its contracts, and sell July. The actual grain is then held until July, when it is delivered. This is known as shifting hedges from one delivery month to another.

This difference in the prices of various deliveries does not always exist as assumed above, because of the interference of outside factors. For instance, December wheat may sell on a par with May wheat because of a shortage of supply at terminal points and a heavy cash demand for milling use. The amount of grain in store is one of the most important factors in determining the price. Obviously, the Terminal Elevator Company must take these things into consideration in deciding whether it will be profitable to buy grain for storage.

In addition to the storage service, Terminal Elevator companies derive large profits from mixing grain. This is made possible by the existence of an "in-inspection"' when the grain is bought and taken into the elevator, and an "out-inspection," when the grain is sold and loaded out. The elevator company buys the grain on the basis of the "in-inspection," mixes it in the elevator, and sells it on the basis of the "out-inspection." It is often possible, by the judicious mixture of some number one wheat with some number two, to secure a product which will grade number one under the "out-inspection." This, of course, applies to other grades and kinds of grain, and explains how the elevator company is sometimes enabled to make large profits by this process. This mixing of grain for the purpose of raising the grade is practiced extensively, and is considered perfectly legitimate with the following limitations:

Stored grain, that is, grain which does not belong to the elevator company holding it, may not be mixed unless this is done at the request and with the authority of the owner of the grain, and in the latter case it would have to be stored in special bins in order to preserve its identity. The mixing of grain belonging to outside parties by an elevator company in order that the latter may make a profit for itself, is strictly prohibited under severe penalty.

There is, however, in private terminal elevators, a great deal of mixing of grain which has been purchased from farmers and which

belongs to the elevator company mixing it. In writing of this practice, Mr. Feig, previously quoted, says: "The mixing of grain in this manner is a benefit not only to those who mix the same, but it reflects itself back to the producer of low grade or 'no grade' grain. The process of mixing and cleaning makes it possible to raise the value of low grade or no grade grain." In other words the elevator man, knowing that he can mix this low grade grain with a better quality and get a marketable product, is willing to pay a fair price for it. In the absence of this practice he would have no use for the low grade grain, and the farmer would be unable to dispose of it. This is what Mr. Feig means when he says that the benefit from this process "reflects itself back to the producer of low grade grain."

The Terminal Elevator Company is a large borrower from the banks because of the nature of its business. It buys large quantities of grain as the cereal comes into the market, and is often compelled to carry this for considerable periods. In order to procure capital for this it deposits with the banks, as collateral for loans, elevator receipts for the grain. Owing to the very stringent rules under which the issuance of these is governed, as previously explained, they make very safe collateral, and in a stable market bankers will loan as high as 90 per cent upon them. As the grain is sold the loans are paid off, and the receipts are surrendered by the bank. The Terminal Elevator Company also borrows on its unsecured notes. It is apparent that in all the steps of moving the crop the bank performs an indispensable function.

The Terminal Elevator Company sells the grain to the exporter or shipper of grain. In some cases the sale is made to exporters located in the primary markets and in other cases to exporters in the seaboard markets. As the primary markets are under discussion now, the exporters operating there will be treated first.

The exporter purchases the grain in the elevator and holds it until he has an opportunity to sell. When he sells the grain abroad or for eastern shipment it is loaded out of the elevator into boats or cars as the case may be. In shipment from Duluth and Chicago the bulk of the grain goes by water to Buffalo, and from there to seaboard points. When the shipment is made, the shipper secures a bill of lading from the vessel company, places insurance on the

cargo, and draws a draft against the consignee. This is deposited in the bank and credited to the account of the shipper.

In Duluth, owing to the cheapness of water transportation, many contracts for shipment on the "opening of navigation" are made during the winter. These call for the shipment of grain ten days after navigation is opened in the spring. The opening of navigation is determined by the arrival of the first boat from lower lake ports.

On grain shipments from primary markets by water the grain is discharged into elevators at Buffalo and reloaded for shipment to New York or Philadelphia for export. Exporters in Duluth and Chicago have representatives in the seaboard markets who look after their shipments through those points. The details of the export business, including the sale of the grain abroad and the ocean transportation, will be treated later in connection with the seaboard markets, as the methods of the primary market and seaboard exporters are identical in most respects.

IV. Hedging

The preceding sections of this paper have been devoted to a discussion of those branches of the grain business which center in and are dependent upon the primary markets. Before considering the grain business in its relation to the seaboard markets, there is one point to be discussed which vitally affects all phases of the grain business. The importance of this will be understood in its application to the businesses previously described. This is the use of the future contract as the basis of hedging operations.

A "hedge" is the purchase or sale of grain usually for future delivery, by a grain dealer or miller, made for the purpose of protecting himself from loss through fluctuations in price. It is extensively used in every one of the businesses previously dealt with, and is essential to their safe operation. The "hedge" works out somewhat as follows: When the country elevator concern buys grain from the farmer it cannot resell that grain immediately for cash. The grain must be stored until a sufficient quantity is received for shipment, and then loaded out and sent to the primary market. This requires considerable time, during which the price of the grain on the primary market may have materially declined. In such a case unless the country concern had some means of

protection, it would suffer a loss during the time that the grain was in transit.

The country concern is in the business of buying, storing, and shipping grain for a legitimate trade profit. It desires to eliminate speculative risks from its business. This is done by hedging. If, for instance, the country concern has bought 10,000 bushels cash wheat from farmers at a price which is equivalent to $1.00 in the primary market, it sells on the primary Exchange an equivalent amount of some "future," say 10,000 bushels May wheat at $1.06 per bushel. As soon as cars are received the grain is shipped to the primary market and sold at the current market price. In case the cash price has declined to 98 cents per bushel a loss of 2 cents per bushel has been sustained upon the actual grain held. It is extremely likely, however, that the price of May wheat will have declined simultaneously, due to the same causes which forced down the price of cash grain. Assuming that the price of May wheat has dropped to $1.04, the country dealer buys in 10,000 May at this price to cover his short sale. Having sold at $1.06 and bought at $1.04 his profit on this transaction is 2 cents per bushel, or the same as the loss which he sustained upon the cash grain. As previously shown his trade profit is included in the difference between the country price and the primary market price of the actual grain.

This practice of hedging purchases of grain is universally used by country elevator concerns. The Line Elevator Company does its own hedging in the primary markets, while the Farmers' Elevator Company and independent dealers use the services of the commission man. So essential is this practice to the safe operation of the business that many commission men, who advance credit to country dealers, insist that the latter keep their purchases properly hedged. The reason for this is identical with that which prompts Southern bankers to refuse loans on shipments of unsold cotton unless the cotton is hedged.

But the country elevator company is only one of the many classes of grain dealers using the hedging transaction. The Terminal Elevator Company buys grain and stores it in its elevators awaiting a market for it. Large quantities of grain may have to be held until there is an export or milling demand for it. In the meantime the company might be subjected to heavy losses through a

decline in prices. It is true that its profits would be equally large in case of a rise in the price, but it should be remembered that the company is not in the business of speculation; it is engaged in the business of storing and mixing grain. It is for this reason that the Terminal Elevator Company hedges by the sale of futures, in identically the same fashion as the country elevator concern.

The "hedge" is also universally used by the flour miller, again with the intention of avoiding speculative losses. In this case the "future" is purchased to cover sales of flour in advance. In a letter referring to the subject of the hedging of flour sales by millers, Mr. A. D. Goodman, president of the Minnesota Millers' Association writes:

> All millers who run their mills absolutely free from speculation, keep all their flour sales, either for future delivery or otherwise, hedged all the time, either with cash wheat or the option. The miller who is doing a legitimate milling business should never be long or short on the market to exceed one thousand bushels of wheat.
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> Millers sell flour for future delivery any place from sixty days to six months ahead. The future sales must be protected either by purchasing cash wheat or the option. It would cost altogether too much to buy the cash wheat for all future flour sales and carry it six months; therefore, the options are largely used as a protection against future flour sales.
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> The miller who makes the money year in and year out is the miller who makes the money out of his flour mill—that is, the minute he makes a flour sale he "cinches" his profit right there by buying the cash wheat or option to protect the sale. Then it does not make any difference if wheat goes up twenty cents per bushel or down twenty cents per bushel.
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> The miller who runs his mill by speculation, in the end falls by the wayside. It occurs to me that trading in futures is absolutely necessary for a miller if he wishes to run his business free from speculation.

The method of hedging used by the miller is approximately this: Suppose, for example, that a miller sells in October 10,000 barrels of flour for January delivery, basing his price upon the present price of December wheat. He immediately purchases enough December wheat to fill the contract, in this case about 45,000 bushels. Sometime during the month of December he will receive the wheat upon his contract, paying for it at the price fixed in October, irrespective of any subsequent changes in the price. The wheat is ground and the flour delivered in January; the miller has made his legitimate milling profit and avoided speculation.

The final use made of the hedging transaction in the handling

of the crop is by the exporter. He, like the Terminal Elevator Company, is often compelled to purchase large quantities of grain and hold it. Mr. Julius H. Barnes, a prominent exporter, doing business in Duluth, Winnipeg, and New York, and a former president of the Duluth Board of Trade, writes as follows on this point:

> From an export or milling standpoint you cannot always buy the grain you need in the exact position desired; it must be bought when there, and, perhaps, at that moment foreign markets or domestic flour markets are not in line to buy the product the same day; in which case we use the hedge in the market to guard against any material fluctuation in the price basis while we are awaiting a market for the actual wheat. As a rule these hedges would be placed as far off as possible, because in normal markets the far-off hedges can usually be sold at a premium over the cash price, thus in a measure getting back, the expense of storing, insurance, and interest.

In view of the universal use of the hedging transaction by all members of the grain trade, invariably for the purpose of avoiding speculation, it is difficult to understand how the legitimacy of future trading in this connection can be questioned. The hedging transaction implies, it is true, that there is always some individual ready to take the other end of the future contract. If an exporter or an elevator company is to sell a future short for purposes of hedging, someone must be willing to buy that future. That is made possible to a large extent by the existence of a group of professional speculators, who are ready to buy or sell grain at a price determined by their individual and combined judgments.

These men make it their business to study all conditions affecting prices, weigh them carefully, and base their operations upon the information obtained. They, as speculators, are willing to carry the risk which the legitimate grain trading concern does not wish to assume. The speculator is in business for a speculative profit; the trading concern is in business for a trade profit. Prices must fluctuate due to constantly changing conditions of supply and demand. The question is whether it is better to allow the professional speculator to assume the speculative risk, or to force that risk upon the legitimate trading concern by the prohibition of future contracts.

The assumption of this risk by the speculator is simply a financial underwriting or insurance. The fire insurance company assumes the risk of loss by fire which a business man does not want

to carry; the speculator assumes the risk of loss through price fluctuations which the grain concern does not wish to carry. There is no gambling, no creation of a new risk, but merely the transfer of the risk from one party to another.

In this connection it is pertinent to state, that in the absence of hedging, everyone in the grain business from country elevator company to exporter would undoubtedly demand a greater margin of profit on account of the increased risk. It is a fundamental rule in business that the greater the risk, the greater is the margin of profit required. The result would inevitably be either a rise in the price paid by the ultimate consumer or a fall in the price paid to the farmer. In Germany, where futures were prohibited for several years the result was a heavy fall in the price which the farmers received for their grain. As a result future trading was restored, largely through the instance of the agricultural interests. It is practically the unanimous opinion of men intimately connected with the grain trade that the abolition of future trading, which implies the elimination of hedging, would result in the farmer receiving less for his grain. Mr. Barnes says in regard to this matter:

> There is no doubt that without the protection of these hedging transactions which enable a large volume of business to be done along a small margin, every one handling grain would require a larger margin of safety, and this in the end would come out of the grower.

Mr. A. D. Goodman, previously quoted in this article, is of the same opinion. He says:

> If trading in futures were eliminated in this country, the farmer would surely have to take from five to twenty cents per bushel less for his wheat.

The logical deduction from all these facts seems to be that, as there is a speculative risk which must be carried by someone in the marketing of the crop, and as the legitimate grain dealer and the farmer both wish to avoid this risk, it should be shifted onto the shoulders of those who are willing to take it. This is done by means of the hedging transaction.

V. Seaboard Markets

A previous description has been given of those divisions of the grain business which center in the primary market, having their basis of operations at that point. Their functions, as explained, are

to secure the concentration of the grain in those markets, and to start on its journey to the eastern states or for export, such a portion of the crop as is not used for local consumption.

In addition to these dealers a second division may be made, consisting of grain concerns which are located in the seaboard markets. Their work, generally speaking, consists in distributing the grain among the various localities in the East, and secondly in the exportation of grain. Although a few concerns engage in both of these branches of business, most of them confine their attention to one branch only, either distributing or exporting. The business of the distributor will be considered first.

This distributing grain dealer draws his supplies mainly from primary markets, buying from large elevator concerns through a broker on the floor of the seaboard exchange. Philadelphia may be taken as an example of this. Certain brokers upon the Philadelphia Bourse represent large terminal elevator companies in Chicago and other concentrating points. They keep on hand samples of the standard grade of corn, oats, and other grains handled by that elevator house. In the morning before the opening of the Exchange, and also throughout the day, the broker receives wires from the elevator company offering certain amounts of grain at specified prices. The broker then makes these offers to the distributing dealers on the Exchange on behalf of the elevator company. Acceptances are immediately wired back to the elevator company giving the name of the purchaser and the shipping directions. For his services the broker receives a commission from the elevator company. This is usually one-eighth cent per bushel, although in some cases it is larger. The wire expense is borne by the broker.

The Philadelphia grain dealer who purchases the grain has it shipped to some diverting point on the railroad, expecting to resell it during transit and forward it to its ultimate destination. At the time of shipment the elevator company draws a draft upon the Philadelphia dealer, based on the amount and grade shipped, and the price agreed upon. The draft with bill of lading attached is forwarded to Philadelphia, accepted by the grain dealer, and the bill of lading made out to the diverting point is turned over to him.

The grain dealer sells this grain through the East to millers and local grain and feed men. He accomplishes this by means of salesmen who are sent out to make offers and solicit business from

the local dealers. In addition to his salesmen the grain dealer sends out by mail a daily card containing offers of grain at certain points. This is received by prospective purchasers in the morning, and acceptances may be wired in before the opening of the Exchange.

When the grain is resold by the Philadelphia dealer he endorses the bill of lading in his possession to the final destination, so that the car of grain is forwarded from the diverting point on the railroad. At the same time he draws a draft upon the purchaser, and deposits it with the bill of lading in his bank, receiving credit for the amount of the sale. The profit of the Philadelphia dealer is included in the difference between his buying and selling prices.

The exporter in the seaboard market buys his grain largely in the primary markets in much the same way as the distributing dealer. His purchases as a rule are in larger amounts and his volume of business greater. He sells in the principal markets of the United Kingdom and the Continent.

It is unnecessary to dwell any further on the movement of the grain from the primary to the seaboard markets, as this has already been explained. When the grain which the exporter has bought arrives at the seaboard, Philadelphia, for instance, it is put into storage elevators previous to its sale and shipment abroad. While it remains here the exporter must pay storage and insurance upon it. If he holds any large quantity of grain and needs additional credit he borrows from the bank, using his warehouse receipts as collateral.

The exporter sells his grain through brokers on the Exchanges of Liverpool, Antwerp, Copenhagen, Hamburg and other important European markets. The services of the broker are similar to those of the broker in the seaboard market. The business is largely an over-night one; offers are made by the exporter in the afternoon and acceptances received in the morning. The broker furnishes the exporter with the name of the purchaser, and sends shipping directions. For his services he receives a commission from the exporter.

In figuring the price at which he can sell, the exporter must take into consideration the cost of the grain at the seaboard, the prevailing rate of foreign exchange between the two countries, the cost of ocean freight and insurance, interest, broker's commission, and his profit.

At the time the sale is made, whether it is for immediate or future shipment, the exporter can contract for ocean freight to the amount needed. The steamship companies are represented upon the exchanges, and will make contracts for tonnage to be filled in the future. As ocean rates are subject to considerable fluctuation due to the changing volume of traffic, the exporter who desires to avoid speculation contracts for his tonnage at the time his export sale is made. There is, however, some speculation in ocean freights. Contracts for tonnage are made on anticipation of future business and higher freight rates. If this business fails to materialize other tonnage must be furnished or dead freight paid on the contract.

The insurance upon the cargo is placed at the time of shipment. Brokers representing marine insurance companies are members of the Exchange, and the contracts for insurance are made there. As the insurance rates do not fluctuate there is no speculative risk attached, and no necessity for contracting for insurance in advance. The policy is made payable to the consignee, but the premium is paid by the exporter.

When the details of the shipment have been completed the exporter draws a draft or commercial bill against the purchaser for the amount of the shipment, attaches the steamship bill of lading and insurance policy covering the cargo, and sells the bill to his banker at the current rate of foreign exchange. This completes the sale so far as the exporter is concerned. The bank has purchased the bill and it looks after the collection on the other side.

In addition to his own export business the seaboard exporter often represents some primary market exporter in looking after the latter's shipments through the seaboard market. The seaboard exporter has the grain stored in the elevator and insured while awaiting shipment, and also contracts for ocean freight and insurance for the grain. For these services he receives a certain commission. He is, therefore, both a competitor and an agent of the exporter in the primary market.